

Date: Fri, 28 May 93 08:29:40 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V93 #653  
To: Info-Hams

Info-Hams Digest                      Fri, 28 May 93                      Volume 93 : Issue    653

Today's Topics:

                    2mtrs and airlines  
                    Experimental DSP kit  
            ft530 rubber resistor: tuned low? (2 msgs)  
                    GAP vs. R7 etc.  
                    Heath HW-101  
                    Manual and control box wanted  
            Need for Radar Gun License RE: FCC Softball Fine  
            Recommendations wanted for SAT QSO's (2 msgs)  
                    RSGB books info  
            Some advice on soldering coaxial cable  
            Yaesu FT-5200 vs Alinco DR-600T

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Fri, 28 May 93 06:12:34 GMT  
From: netcon!bongo!skyld!janguis@locus.ucla.edu  
Subject: 2mtrs and airlines  
To: info-hams@ucsd.edu

In article <9305261621.aa20764@cbda7.apgea.army.mil> wejones@cbda7.apgea.army.mil  
writes:

> > smile. :-) Now I demo it at the baggage check (don't send it through the  
> > x-ray, I prefer not to have static ram or NVRAM corrupted by a soft x-ray  
> > hit thank you) then take the battery off it and stow it in my carry on so  
> > it can't become switched on accidentally.

> how does it work. My wife carried her HT on a plane once, and sent it through  
> the x-ray conveyer. When she tried to use it (once off the plane), it was  
> totally messed up! It still had the freqs programmed in, but it was

Wonderful things semi-conductor junctions. They make great X-ray detectors.  
Typically what happens is that all the junctions fire like an SCR when they  
get hit with X-rays. Since most Handhelds have a lithium battery keeping the  
memory chips turned on, there are all sorts of interesting effects when the  
memory chips start having some or all of thier junctions fireing randomly.

J. Angus: jangus@skyld.tele.com -- "Als ik Kan", Gustav Stickley  
US Mail: PO Box 4425 Carson, CA 90749-4425 1 (310) 324-6080

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Date: 28 May 93 10:40:46 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Experimental DSP kit  
To: info-hams@ucsd.edu

I'm looking for a not to expensive experimental DSP kit,  
to do some ham radio experiments.

The w9gr kit described in QST would be a nice one if it had the  
capability to load my own software. Also a digital interface  
(RS-232) would be nice, for packet-radio or fax, rtty, etc.

any comments, ideas?

Gerrit.

From: Gerrit Polder  
CPRO-DLO  
P.O. Box 16  
6700 AA Wageningen  
The Netherlands  
Phone: +31 8370 - 76842  
Email: G.POLDER@CPRO.AGRO.NL

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Date: Thu, 27 May 1993 11:42:56 GMT  
From: cs.utexas.edu!utnut!torn!nott!uotcsi2!revcan!balsam!uuisis!ve3ppe!  
znha@uunet.uu.net  
Subject: ft530 rubber resistor: tuned low?  
To: info-hams@ucsd.edu

I had the pleasure yesterday of using the company's network analyser, (1) for a few minutes. The ft530 (2) and it's factory rubber resistor were with me, so I plunked it on.

Spread 100MHz to 500MHz. Log Magnitude. Return loss mode, a (s1) channel.

The antenna varied between free-standing and held, touching the ht's BNC where it would be naturally. Dips of maximum return loss (3) were at 140MHz +-2MHz, and 410MHz +-3MHz. Depth around 147 and 448 MHz were only roughly -3 dB instead of -12 to -18 dB.

Yaesu tuned their rubber duck intentionally low in frequency?

Can't be. Must be a matching network in the radio. Plug the network analyser into the BNC on the ht, turned on (avoid ptt!). Hey, it's dips are roughly in the same area, although they are much broader, and the uhf dip goes from roughly low 400s to high 400s of MHz. Looks like yes, virginia, the (or my) system is tuned low, and the antenna has to be a rotten performer!

Comments from others having played with antennas, ducks and analysers?

73, Gord.  
znha@ve3ppe.isis.org (internet) ve3ppe@ve3osq.#eont.ca.na (packet)

(1) we're missing one of the adapter plugs off of the s2 port. Apparently they're about \$250 to buy from HP...anyone selling theirs cheap?

(2) Gary: love the clock--used it as a travel alarm at Dayton 8-)

(3) return loss examines the amount signal that (doesn't) come back. Ideally, a perfectly matched system, perfectly coupled will return nothing--all of the signal is radiated and nothing ever comes back. A -3 dB dip means that half of the signal transmitted radiated (or: went into heat) it didn't come back, and the other half DID. -10 dB dip means, for 3W incident, 2.7W went somewhere, never to return (hopefully radiated) and 0.3W was reflected.

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Date: Fri, 28 May 1993 14:46:01 GMT  
From: usc!howland.reston.ans.net!ux1.cso.uiuc.edu!uchinews!att-out!cbnewsd!  
cbnewsc!cbfsb!cbnews!cbnewsm!mare.att.com!shz@network.UCSD.EDU  
Subject: ft530 rubber resistor: tuned low?

To: info-hams@ucsd.edu

In article <C7ooJL.38t@ve3ppe.isis.org>, znha@ve3ppe.isis.org (Gordon Dey) writes:  
> Looks like yes, virginia, the  
> (or my) system is tuned low, and the antenna has to be a rotten performer!

Yaesu has stopped shipping the FT530 with the rubber dummy load. Their customer service department will send FT530 owners an FT470 antenna free of charge if they send in a copy of their purchase invoice and call sign.

I got mine and it makes a world of difference. Contact Yaesu for details.

Seth Zirin, N2UCQ

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Date: 28 May 1993 14:42:04 GMT  
From: swrinde!elroy.jpl.nasa.gov!usc!howland.reston.ans.net!news.ans.net!rpi!rs6320.ecs.rpi.edu!maessm@network.UCSD.EDU  
Subject: GAP vs. R7 etc.  
To: info-hams@ucsd.edu

As far as the GAP vs. Butternut HF6V, I would recommend the GAP over the Butternut. I have used both antennas. The GAP comes pre-tuned, with an SWR of less than 2:1 in the 40-10 meter ham bands, and has about 130-150 kHz bandwidth on 80 meters. The Butternut can be a witch to tune, and you're lucky to get 50 kHz of bandwidth on 80 meters. The GAP only requires three 25-foot radials, while the butternut, in order to operate efficiently, requires a substantial ground system. The GAP also appears to be more ruggedly put together, and the SWR of the antenna is almost unchanged when it bends in the wind. I recommend nylon guy lines for both antennas if they are goign to be subject to high winds or up for a long time.

--  
Mat Maessen    N2NJZ            | maessm@rpi.edu

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disclaimer: Anyone NOT singing will have a can of Foster's lobbed at their heads.

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Date: 28 May 1993 12:19:57 GMT  
From: usc!howland.reston.ans.net!sol.ctr.columbia.edu!destroyer!news.itd.umich.edu!usenet@network.UCSD.EDU  
Subject: Heath HW-101  
To: info-hams@ucsd.edu

In article <93147.182902UD173191@NDSUVM1.BITNET> UD173191@NDSUVM1.BITNET (Greg Moore) writes:

>I recently acquired a Heathkit HW-101, and I was wondering if anybody  
>knows how to go about calibrating the dial on the tuning knob? Is  
>there an easy way, or do I need a receiver for this? Next question:  
>I have a pretty good idea about how to tune the finals, but can anybody  
>tell me the exact procedure?  
>Thanx in advance!

>---Greg Moore, N00DQ

Greg - do you have a copy of the HW-101 alignment manual? There are several methods available - I always used CHU on 40 meters and the xtal calibrator as reference posts.

-larry

(( ex-Heath ham tech... a previous life))

. . . . .  
. Larry Gauthier      Manager, UIS Technology Assessment Group .  
. Information Technology Division, The University of Michigan .  
. e:larryg@umich.edu v:313/936-3883 f:313/763-0523 h:ke8bf .  
. . . . .

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Date: 28 May 93 11:56:08 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Manual and control box wanted  
To: info-hams@ucsd.edu

I am looking for someone that would like to share information in the form of a manual and another whom would like to get rid of a rotor control box.

The Manual that I need is for the Hammerlund HQ110 receiver. I need the works on it.

The Rotor control box I need is a 5 wire that will control a CDE Big <something> Rotor. If we make a deal on this item will need papers work on this also.

E-Mail me at my address below and I'll get back with you

Tim Wright KD40VM

WRIGHT@morekypr.BITNET

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Date: 28 May 93 13:30:34 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Need for Radar Gun License RE: FCC Softball Fine  
To: info-hams@ucsd.edu

The message posted yesterday about the FCC levying the fine on the softball fundraiser for using an unlicensed Radar Gun to Clock the pitchers reminded me of a question I once had.

As a former Police Officer I can remember asking the powers that be in the department about the licenses for the Radar equipment. Each time the answer was that they had been told the License for the VHF/UHF radios in the car would cover it. I repeatedly told them that this was not the way it worked, but of course who was I to know how it should or should not work.

I have always understood that the unit must be licensed, the license or a copy must be affixed to the unit in a visible location, and must be recertified and calibrated each year.

If anyone has any specifics on this and how the guns are covered I would be interested in hearing about it. Even more so, interested in letting the old department know how it really works. Any narratives or specific incidents would really be of help. They've been lucky so far. No one has challenged them in court as to whether or not the unit was licensed, had received it yearly recalibration, or if it's operators had been certified to use it.

Ron - KA5LUG

RON@NSULA.EDU

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Date: 28 May 93 07:42:05  
From: idacrd.ccr-p.ida.org!idacrd!n4hy@uunet.uu.net  
Subject: Recommendations wanted for SAT QSO's  
To: info-hams@ucsd.edu

It is my personal opinion that the IC-970 suffers from many of the 'features' that made the TS790A unusable for satellites. The inability to select easily who was transmitter and who was receiver, and other human-interface problems. It is a beautiful radio but it definitely is NOT worth the extra money in my personal opinion. Right now, right this minute, the Yaesu radio, FT-736R, contains the features you want in a satellite radio, with a few exceptions. The receiver and transmitter frequencies, modes, etc. can be controlled via the computer interface. Many of us use the Kansas City Tracker/Tuner board. This is a PC clone board, takes up a

slot, and software (TSR's) to do a lot of the work. The things you lose are the convenience of having separates. I do NOT believe that 290/490 have computer control but I will be happy to be corrected by those in the know.

Bob

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Robert W. McGwier | n4hy@ccr-p.ida.org  
Center for Communications Research | Interests: amateur radio, astronomy, golf  
Princeton, N.J. 08520 | Asst Scoutmaster Troop 5700, Hightstown  
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Date: Fri, 28 May 1993 13:07:25 GMT  
From: decctrl!news.crl.dec.com!dbased.nuo.dec.com!nntpd.lkg.dec.com!  
nntpd2.cxo.dec.com!nuts2u.enet.dec.com!little@decwrl.dec.com  
Subject: Recommendations wanted for SAT QSO's  
To: info-hams@ucsd.edu

tjonz@caliban.Corp.Sun.COM (Todd Jonz) writes:

>Finally a question about antennas. I understand that I'll probably want to  
>install circularly polarized antennas for OSCAR work, but I'm also interested  
>in terrestrial SSB as well. Since this will be my first experience above  
>28 MHz using a mode other than FM, and I'm curious how well circularly  
>polarized antennas interoperate with horizontally polarized antennas. Will I  
>get satisfactory performance using a circularly polarized antenna for  
>terrestrial SSB, or will this require a separate antenna?

OSCAR antennas will work fine for terrestrial work, but remember that you'll take a 3 dB hit in signal strength when working either a horizontally or vertically polarized station. Other than the 3 dB loss, things should work out fine. I've been using my OSCAR antennas on an 8' tripod in my backyard while I duke it out with the village and neighbors over getting my terrestrial antennas back up.

And welcome to some great bands/mode. 2 m and 70 cm sideband are my favorite places to operate.

73,  
Todd  
N9MWB

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Date: Fri, 28 May 1993 14:40:31 GMT  
From: sdd.hp.com!apollo.hp.com!hpwin052!hpmqmoa!dstock@network.UCSD.EDU  
Subject: RSGB books info

To: info-hams@ucsd.edu

RSGB Book sales at their haedquarters:

RSGB Sales  
Lambda house  
Cranborne Road  
Potters Bar  
Herts  
EN6 3JE

Phone +44 707 659015      usual credit cards etc.

They stock and sell ARRL publications, but check ARRL prices first.

I feel that many of the RSGB books are showing their age and are overdue for major revision. I know of none with any moderate level theoretical coverage. Maybe amateur radio is really becoming less technical, and this is the publishing industry tracking this change. About the best that amateur radio can offer is the ARRL's "Solid State Design for the radio Amateur" which too is ageing, and lacks much theory and any maths, but is a good entry into RF matters with good explanations. One of the Authors was a senior RF designer at Tektronix at the time.

Horowitz and Hill "The Art of electronics" is the standard entry into non-RF electronic hardware and is well written with excellent explanations. The authorss are instrumentation specialists and this shows in the book. I recommend it strongly. Not deep theoretically, it's still a good starting point and a guide to where to dig deeper.

Historically, measurement and RF design have been minority interests, overshadowed by microprocessors, etc. and have not been taught much. Most of the knowledge resides with people who learned by experience and so little is easily found in print.

Hewlett Packard has published a Journal ( Hewlett-Packard Journal) since almost when it was founded, in here are the explanations and theory behind many of the standard measuring instruments, oscilloscopes, spectrum analysers, network analysers along with some information on the people who developed them. Today it has more of a computer/software/printer content, so you need to find a library with an extensive collection. (There is also a set of applications notes covering a matching span of years.) These are more likely to be found in company libraries than public libraries.

Other companies ( Tektronix, Rohde u Schwarz etc.) have similar publications.



Trade magazines (RF Design, Microwaves and RF etc) are the main carriers of new technology, books lag behind.

Hope this helps (the criticisms are just my personal opinions)

David GM4ZNX

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Date: Fri, 28 May 93 06:05:51 GMT  
From: netcon!bongo!skyld!janguis@locus.ucla.edu  
Subject: Some advice on soldering coaxial cable  
To: info-hams@ucsd.edu

In article <26MAY199307284866@nssdca.gsfc.nasa.gov> stocker@nssdca.gsfc.nasa.gov writes:

> I know how to prepare the cable for soldering and know to tin the  
> shielding before soldering. However, I have the following specific  
> areas that I would like to get someone's opinion who has done a bunch  
> of this type of soldering:  
>  
> 1) Will a 35W iron be enough to heat both the connector and the  
> shielding so that the solder will flow well.

No.

> 2) Is there an easy way to tell when the connector is hot enough before  
> the insulation starts to "flow"

Wrap a single turn of 1/32" solder around the connector near the holes next to the threads.

> 3) I had someone tell me that I shouldn't attempt to flow solder in all  
> the solder holes on the connector for the shielding. Is there a minimum  
> number that must be soldered.

If you're using an iron that is too small, this is correct. Otherwise solder the braid all the way around.

Included is an article that I wrote concerning S0-239 UHF type connectors.

Subject: How to solder PL-259 and S0-239 connectors

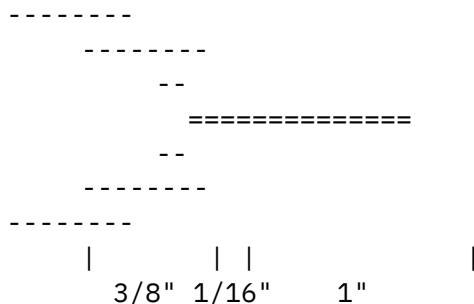
How to solder PL-259 (UHF) connectors and get them hot enough to work right without melting the inner insulator. If you're doing the S0-239 (female)

connectors, refer to steps 3 and 8. Use the soldering gun without the tips, and a good grade of rosin flux. Use a Weller soldering gun, 120 watt version. Use a decent grade of solder. 40/60 is fine, 37/63 is even better.

Additional tips. Use the yellow phenolic (or teflon) insert, with the silver plated parts manufactured by Amphenol (or Kings and others). They are easy to solder, but most importantly, they are correctly dimensioned. Use a good grade of coax, American made with an RG or in house number. Likewise, it is correctly dimensioned. Use that sticky black tape, "coax-seal" to cover the connector(s) if they are used outside. (Or in the shower inside).

Finally, don't be a cheap ba\*\*ard. Use NEW coax. Use NEW connectors. Use quality parts (see above) that couple of dollars you save is not worth the aggravation of climbing a tower and replacing a 100 feet of coax. Or the final section of your radio/amplifier.

1. Put the connector barrel on the cable
2. Prepare coax. strip jacket, shield, center conductor. Make sure that the braid is smooth and no stray ends are splayed out.



3. Use rosin based past flux, (not the zinc chloride "no-corrode" stuff) and coat the braid and center conductor.
4. Pre-tin the braid and center conductor. Hint, once the braid is tinned, whack the cable end against the bench while the solder is still "wet".
5. Clean all the flux off of the center conductor and braid with solvent type flux remover.
6. Make sure the connector barrel is on the cable and facing the right direction.
7. Thread the connector body onto the cable jacket until the die-electric bottoms out inside the connector. The braid should fully cover all four soldering holes.
8. Check that connector barrel one more time. This is your last chance!

9. Solder the center conductor to the center pin make sure you have enough solder to fill the pin. Do not use an excessive amount or you can short the connector assembly.
10. Remove the tip from the soldering gun. Place the two stubs against the side of the connector body. (straddling the shield soldering holes.) Heat the connector body and flow solder into the shield. Rotate the body and do the opposite side, then the adjacent sides. (Having someone help makes this easier)
11. Wipe excess flux off of connector, and clean it with solvent type flux remover. If you find the connector barrel laying on the bench top now, cut the connector off of the cable and throw it away. You'll remember it the next time.
12. Check cable for shorts and continuity.

73 es GM from Jeff

J. Angus: jangus@skyld.tele.com -- "Als ik Kan", Gustav Stickley  
US Mail: PO Box 4425 Carson, CA 90749-4425 1 (310) 324-6080

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Date: 28 May 1993 11:23:40 GMT  
From: vtserf.cc.vt.edu!groupw.cns.vt.edu!benchoff@uunet.uu.net  
Subject: Yaesu FT-5200 vs Alinco DR-600T  
To: info-hams@ucsd.edu

I am considering purchase of a new dual-band (2m/70cm) mobile radio.  
I would be interested in any comments re: Yaesu FT-5200 vs Alinco  
DR-600T. One thing I am interested in is the extended frequency  
coverage for both tx and rx.

Thanks,  
Phil Benchoff KC4ZEN

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Date: Fri, 28 May 1993 10:15:58 GMT  
From: usc!howland.reston.ans.net!darwin.sura.net!europa.eng.gtefsd.com!  
eddie.mit.edu!news.intercon.com!psinntp!uuneo!sugar!jreese@network.UCSD.EDU  
To: info-hams@ucsd.edu

References <1993May21.170747.19744@anomaly.sbs.com>, <1tqk57\$26d@fugu.mc.com>,  
<1993May25.192837.4109@kd4nc.uucp>.i  
Subject : Re: Radio Shack 70cm HT?

In article <1993May25.192837.4109@kd4nc.uucp> n4tii@kd4nc.uucp (John Reed) writes:  
>2 meters is hell in some places because some jerks choose to make it a hell.  
>There are scum everywhere that possess a flagrant disregard for the law. We  
>need to stop the problem...not a symptom of the problem...  
>Radio Shack selling 2 meter rigs = choas on 2 meters. NOT!

Amen. I would even go a bit further and say that it's hell not only because  
of the scum that possess a flagrant disregard for the law, but because WE  
ALLOWED IT TO HAPPEN. (we being the normal, law abiding, hams...)

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Jim Reese, WD5IYT | "We need freedom of speech in this country so we can  
jreese@sugar.neosoft.com | identify all the jerks out there" --Ted Nugent

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Date: 28 May 1993 14:57:15 GMT  
From: news.cerf.net!nic.cerf.net!margie@network.UCSD.EDU  
To: info-hams@ucsd.edu

References <newman.738549166@irvin.alantec.com>,  
<1993May28.034059.16465@Csl.Stanford.EDU>, <1u58bs\$qjh@usenet.rpi.edu>  
Subject : Re: GAP vs. R7 etc.

Don't use nylon rope for guys - a few years in the sun seriously weakens it.  
Dacron polyester (preferably black) lasts a lot longer. Found in bigger  
boating stores and advertised by some wire and antenna places.

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Message from darrel@dii.com on a guest account. KI6VY

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Date: 28 May 1993 08:08:37 -0400  
From: usc!howland.reston.ans.net!noc.near.net!genrad.com!genrad.com!not-for-  
mail@network.UCSD.EDU  
To: info-hams@ucsd.edu

References <1515@arrl.org>, <C7p06r.K9y@ucdavis.edu>,  
<m0a4efINN2th@news.bbn.com>ge  
Subject : Re: Question: Can a novice take the extra test?

In article <m0a4efINN2th@news.bbn.com> levin@bbn.com (Joel B Levin) writes:  
>ez006683@othello.ucdavis.edu (Daniel D. Todd) writes:  
>| When my girlfriend took her no-code she had to take the novice portion  
>|twice. The VE (ARRL) made her pay another testing fee to retake the

>|element. Is this the VE's decision or does the VEC send down the word on  
>|element retesting fees. Someone else said they had to retake another  
>|element and said they didn't charge him the testing fee twice.

>

>The ARRL VE manual specifies that a test may be retaken at the option  
>of the VE team administering a test (they may not have a different  
>form of the test on hand, for instance). If they decide to allow it,  
>they must charge a second testing fee.

>

>Other VECs may give their VEs other instructions.

>

> /JBL

>=

>Nets: levin@bbn.com | "GO TO JAIL. Go directly to jail. Do not pass

>POTS: (617)873-3463 | Go. Do not collect \$200."

>KD1ON (@KB4N.NH.USA) | -- Parker Brothers

>

THIS IS INCORRECT. No VEC, INCLUDING ARRL, charges for NOVICE exams. If they do, it is ILLEGAL and probably the error is on the VE, NOT the VEC (ie, ARRL). If a person takes and fails the Novice written or the 5 wpm code test, their money (if they had given any) must be refunded. They can retake the test, at the discretion of the VE, for the same price, ie NOTHING.

On the other hand, once the person takes the Technician test, and passes (oh, and by the way, he does have to pay a fee for the Technician test, according to the different rules of the different VECs), then the person is considered to be under the Technician rules. If he later takes the 5 wpm code test, the standard fees apply, since this is no longer a Novice test.

Don't blame the ARRL for a mistake by a VE.

--

->Diana L. (Syriac) Carlson dls@genrad.com Ham: KC1SP (Sweet Pea) <-

->I'D RATHER BE FLYING! P-ASEL, INST CAP: CPT, Freedom 690 Mobile<-

->AD ASTRA, PER ASPERA Airplane: C-172 N6513E

<-

->GenRad, MS/6, 300 Baker Ave, Concord, Mass. 01742 (508)369-4400 x2459 <-

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End of Info-Hams Digest V93 #653

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